Science question of the month

March 1, 2016

According to a [Department of Energy site](#), Enrico Fermi "… had calculated ahead of time how far the blast wave might displace small pieces of paper released into it. About 40 seconds after the explosion, Fermi stood, sprinkled his pre-prepared slips of paper into the atomic wind, and estimated from their deflection that the test had released energy equivalent to 10,000 tons of TNT. The actual result as it was finally calculated —21,000 tons (21 kilotons)—was more than twice what Fermi had estimated with this experiment and *four times* as much as had been predicted by most at Los Alamos."

Just a few months ago the museum had a guest who was excited to have found his college professor's picture among our collection of badge photos. He told us that Emil Konopinski had claimed to have calculated the impossibility that the atmosphere would catch fire.

Research revealed that during a transcribed interview with Hans Bethe, included on the [Scientific American website](#), once the question of potentially igniting the air was raised, it was researched and put to rest. Konopinski was involved with the calculations:

"Teller at Los Alamos put a very good calculator on this problem, [Emil] Konopinski, who was an expert on weak interactors, and Konopinski together with [inaudible] showed that it was incredibly impossible to set the hydrogen, to set the atmosphere on fire. They wrote one or two very good papers on it, and that put the question really at rest. They showed in great detail why it is impossible."

The interview later goes on to state that one scientist, Arthur Compton, was less convinced and "when he gave an interview at some point, and so it got into the open literature, and people are still excited about it."